



Equal Opportunity Employer

P.O. Box 51450
Idaho Falls, Idaho 83405
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DE/AFS/SF

April 20, 2007

Mr. Jonathan Pettit
Air Quality Permitting Analyst
State of Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706

RECEIVED

APR 23 2007

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY SECTION

Re: PTCs for Idaho Falls Plant and Teton Plant

Dear Mr. Pettit:

Attached please find the new copies of the Permits to Construct for the following Plants:

1. Idaho Falls Plant – 019-00031
2. Teton Plant – P-060523

After talking Bill Rogers on the phone on Thursday, April 19, 2007, I am sending the updated information to you for your review and submittal. Please consider this as my application for both plants. If you have any questions or concerns please call me and I will be glad to assist you.

Thank you for your patience and assistance with this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Clarence H Davis', is written over a horizontal line.

Clarence H Davis
Permits & Environmental Administrator
H K Contractors, Inc.
P.O. Box 51450
Idaho Falls, Idaho 83405
(208) 523-6600

**PERMIT TO CONSTRUCT (PTC) APPLICATION
For Hot-Mix Asphalt Plants**

FORM AQ-F-P007

Please be sure to read the instructions on page one prior to completing this application form.

GENERAL INFORMATION

RECEIVED

APR 23 2007

DEPARTMENT OF ENVIRONMENTAL QUALITY
STATIONARY SOURCE PROGRAM

Company Name:	H K Contractors, Inc.		
Mailing Address:	P.O. Box 51450		
City:	Idaho Falls	State:	Idaho
Zip Code:	83405	County:	Bonneville
General Nature of Business & Products:	General Contractor - Utilities, Gravel, & Asphalt		

Contact Name, Title:	Larry Ritter / Asphalt General Superintendent		
Phone:	208-523-6600	Cell:	208-317-8627
Email:	larryritter@hkcontractors.com		

Owner or Responsible Official Name, Title:	Wade Foster / Owner	Clarence H Davis / Permits
Phone:	208-523-6600	208-523-6600
Email:	wadefoster@hkcontractors.com	clarencedavis@hkcontractors.com

Proposed Initial Plant Location:	Portable Hot Plant		
Nearest City:	City of Teton, Idaho	Estimated Startup Date:	4/1/07
County:	Fremont County, Idaho		

Reason for Application:	<input type="checkbox"/> Permit to construct a new source <input type="checkbox"/> Permit to operate an existing unpermitted source <input checked="" type="checkbox"/> Permit to modify/revise an existing permitted source (identify the permit below) Permit No.: <u>777-00028</u> Issue Date: <u>5/17/2000</u> Facility ID: <u>139 Hot Plant</u>
<input checked="" type="checkbox"/> Check here to indicate you would like to review a draft permit prior to final issuance.	
Comments: Requesting Fuel Change and Replacing 360 Burner with another used 360 Burner.	

PERMIT TO CONSTRUCT (PTC) APPLICATION For Hot-Mix Asphalt Plants

FORM AQ-F-P007

HOT-MIX ASPHALT PLANT INFORMATION

Manufacturer:	Barber Greene	Model:	DA-70X124
Manufacture Date:	1959	Type HMA Plant:	<input checked="" type="checkbox"/> Drum Mix <input type="checkbox"/> Batch Mix
Maximum Hourly Asphalt Production:	250 (tons/hour)		
Requested Annual Asphalt Production:	1,477,036 (tons/year)		
Burner Fuel Type:	Used Oil, Propane, #2 Fuel Oil (natural gas, #2 fuel oil, etc)		
Maximum Burner Fuel Usage Rate:	375 <input type="checkbox"/> scf/hour or <input checked="" type="checkbox"/> gallons/hour		
Type Air Pollution Control Device:	Wet Scrubber (baghouse, scrubber, etc.)		
Control Device Manufacturer:	Barber Greene	Model:	CV-70
Stack Parameters:	Stack Height from Ground (ft): <u>25</u> Stack Exhaust Flow Rate (acfm): <u>44,000</u> Stack Inside Diameter (ft): <u>3.4</u> Stack Exhaust Gas Temperature (°F): <u>127</u>		

ASPHALT TANK HEATER

Fuel Type:	# 2 Fuel Oil (natural gas, #2 fuel oil, etc)		
Maximum Fuel Usage Rate:	8 (units/hour) (units/year) <input checked="" type="checkbox"/> gallons <input type="checkbox"/> ft ³ <input type="checkbox"/> other:		
Type Air Pollution Control Device:	None <input type="checkbox"/> MMBtu <input type="checkbox"/> HP		
Stack Parameters:	Stack Height from Ground (ft): <u>12</u> Stack Exhaust Flow Rate (acfm): <u>?</u> Stack Inside Diameter (ft): <u>.66</u> Stack Exhaust Gas Temperature (°F): <u>300</u>		

Is this an NSPS-affected facility? ☐ Yes ☒ No

To determine if the HMA facility is a New Source Performance Standards (NSPS)-affected facility, consider the following:

Were any of the following constructed or modified after June 11, 1973, such that the equipment becomes an affected facility as defined in 40 Code of Federal Regulations, Part 60, Section 90 (40 CFR 60.90) *Standards of Performance for Hot-Mix Asphalt Facilities*:

- Dryers
- Systems for screening, handling, storing, and weighing of hot aggregate
- Systems for loading, transferring, and storing of mineral filler
- Systems for mixing hot-mix asphalt
- Leading, transfer, and storage systems associated with emission control systems

Modification is defined in 40 CFR 60.14. The Code of Federal Regulations can be accessed from the website <http://www.gpoaccess.gov/cfr/>.

Has a performance test been conducted in accordance with 40 CFR 60.93 that demonstrates particulate matter emissions are less than or equal to 0.04 gr/dscf (grains per dry standard cubic foot) at the HMA stack?

☒ Yes ☐ No

If Yes, state the date the test was conducted: 6/11/1987.

Provide a copy of the performance test results with this application if you want DEQ to consider it in determining the frequency of performance testing requirements for your hot-mix asphalt plant.

PERMIT TO CONSTRUCT (PTC) APPLICATION **For Hot-Mix Asphalt Plants**

FORM AQ-F-P007

ELECTRICAL GENERATOR SET INFORMATION (IF APPLICABLE)


Manufacturer:	N/A	Model:	N/A
Maximum Rated Capacity:	N/A <input type="checkbox"/> Hp <input type="checkbox"/> kW		
Fuel Type:	<input type="checkbox"/> Gasoline <input type="checkbox"/> Diesel <input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane		
Maximum Fuel Usage Rate:	N/A <input type="checkbox"/> gal./hr. <input type="checkbox"/> cfh		
Maximum Daily Hrs. of Operations:	N/A (hours/day)		
Maximum Annual Hrs. of Operations:	N/A (hours/year)		
Stack Parameters:	Stack Height from Ground (ft): <u>N/A</u> Stack Exhaust Flow Rate (acfm): <u>N/A</u> Stack Inside Diameter (ft): <u>N/A</u> Stack Exhaust Gas Temperature (°F): <u>N/A</u>		

Manufacturer:	N/A	Model:	N/A
Maximum Rated Capacity:	N/A <input type="checkbox"/> Hp <input type="checkbox"/> kW		
Fuel Type:	<input type="checkbox"/> Gasoline <input type="checkbox"/> Diesel <input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane		
Maximum Fuel Usage Rate:	N/A <input type="checkbox"/> gal./hr. <input type="checkbox"/> cfh		
Maximum Daily Hrs. of Operations:	N/A (hours/day)		
Maximum Annual Hrs. of Operations:	N/A (hours/year)		
Stack Parameters:	Stack Height from Ground (ft): <u>N/A</u> Stack Exhaust Flow Rate (acfm): <u>N/A</u> Stack Inside Diameter (ft): <u>N/A</u> Stack Exhaust Gas Temperature (°F): <u>N/A</u>		

☒ \$1,000 PTC application fee enclosed

Certification of Truth, Accuracy, and Completeness (by Responsible Official)

I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123-124.


Responsible Official Signature

Permits & Environmental Administrator
Responsible Official Title

02/05/2007
Date

Clarence H Davis
Print or Type Responsible Official Name

**H-K Contractors, Inc.
Teton Facility HMA Plant
Potential to Emit and Air Quality Modeling
Analysis Report**

Prepared for:

**H-K Contractors, Inc.
P.O. Box 51450
Idaho Falls, ID 83405**

Prepared by:



**Environmental Consulting Services, LLP
451 Freedom Ave.
Billings, MT 59105
www.enviroconsult.com**

April 5, 2007

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1.0 INTRODUCTION

Environmental Consulting Services, LLP (ECS) has been retained by H-K Contractors, Inc. (HKC) to provide assistance with, and to perform, specific air quality (AQ) calculations and modeling services in order to support HKC with modifications to their AQ Permit to include the use of three additional fuel types in the Dryer Drum of the Teton Facility Hot Mix Asphalt (HMA) Plant. ECS has performed, and presents herein, potential to emit (PTE) calculations and any AQ Modeling necessary/required of the proposed changes to the Teton Facility HMA Plant.

2.0 SITE INFORMATION

ECS has been provided with the address of the Teton Facility HMA Plant site by HKC, with the current location of the site as 110 North 2300 East, Teton, ID (see Figure 1). This HMA Plant was issued a Permit to Construct (PTC) from the Idaho Department of Environmental Quality (IDEQ) on December 5, 2006 (AQ Permit #P-060523) and lists the following AQ Permit Emission Limits:

Dryer Drum:

- PM (Particulate Matter) emissions from the dryer stack shall not exceed 0.04 gr/dscf (grains per dry standard cubic foot) in accordance with 40 CFR 60.92
- PM₁₀ (Particulate Matter 10 microns in diameter or less) emissions from the dryer stack shall not exceed the emission rate of 9.3 lb/hr (pounds per hour) and/or 18.9 T/yr (tons per year)

This HMA Plant is a 1959 Barber Green, Drum Mix – Parallel Flow, with a Wet Scrubber. The throughput rate of this HMA Plant is at the maximum of 250 T/hr (tons per hour), and currently uses propane for fuel for the Dryer Drum.

3.0 PROPOSED CHANGES

It is the understanding of ECS that HKC wishes to propose that an additional three fuel types be able to be used and permitted for the Dryer Drum of The Teton Facility HMA Plant and that this will be the sole proposed change. The three additional fuel types proposed are: Natural Gas; #2 Fuel Oil; and Used Oil. ECS has therefore approached the PTE and any necessary/required AQ Modeling work tasks with this sole proposed change in mind. As there will be no changes to the Tank Heater or other ancillary systems of the Teton Facility HMA Plant, then ECS sees no need to further quantify PTE or AQ Modeling for these features of this HMA Plant. PTE and any necessary/required AQ Modeling of the Teton Facility HMA Plant will be performed on the Dryer Drum only, and will consist of an assessment of any increase(s) of emissions of this HMA Plant due to the proposed additional fuel types to be used in the Dryer Drum.

Figure 1 – Site Location

Page 1



4.0 PTE CALCULATIONS

ECS has used the following Teton Facility HMA Plant Dryer Drum specific data for PTE calculations as well as AQ Modeling work tasks:

- ◆ Barber Green Drum Mix Parallel Flow Dryer Drum
- ◆ 250 T/hr throughput maximum capacity
- ◆ Four fuel types (proposed) of Propane; Natural Gas; #2 Fuel Oil; and Used Oil
- ◆ Wet Scrubber emission control (rated at a minimum of 70% control efficiency)
- ◆ Stack Height of 25 ft (feet) or 7.62 m (meters)
- ◆ Stack Diameter of 3.33 ft or 1.02 m
- ◆ Exit gas volume of 44,000 acfm (actual cubic feet per minute) or 84.2 ft/s (feet per second) or 25.7 m/s (meters per second)
- ◆ Exit gas temperature of 127 °F or 52.78 °C or 325.93 °K

For PTE calculations ECS will use AP-42 emission factors (Efs) and since there are four types of fuel proposed to be used for the Dryer Drum, then ECS will use the most restrictive (i.e., worst-case scenario) Ef for any/all listed parameters in AP-42 Section 11.1 Hot Mix Asphalt Plants, revised March 2004. For clarity ECS has calculated PTE for both criteria pollutants and toxic air pollutants (TAPs).

Criteria Pollutants PTE:

Criteria pollutants were calculated in three distinct manners, with copies of the spreadsheets included in Appendix A, as well as a comparison of data values spreadsheet. The four criteria pollutant PTE spreadsheets are:

- ◆ Maximum PTE
- ◆ Actual Proposed PTE
- ◆ Permit Limits PTE
- ◆ PTE Data Values Difference of Actual Proposed Compared to Current Permit Limits

The Maximum PTE calculations are for IDEQ to use to classify the Teton Facility HMA Plant, which according to IDEQ regulations appears to be classified as a “synthetic minor” (SM) source. The Actual Proposed PTE calculations present results for emissions of criteria pollutants according to the proposed changes of adding three fuel types for the Dryer Drum. The Permit Limits PTE calculations present results for emissions of criteria pollutants according to current permit limits for the Dryer Drum. The difference of the calculated emissions of the Actual Proposed PTE and the Permit Limits PTE is shown on the PTE Data Values Difference. The PTE Data Values Difference indicates two (2) criteria pollutants that will increase, with NO_x emissions increasing a calculated 4.4 tons per year (TPY) and SO₂ emissions increasing a calculated 8.3 TPY.

As both of these calculated emission increases are well below the 40 TPY “significant” emission levels in IDAPA 58.01.01 then there does not appear to be any reason for any further study of criteria pollutants resulting from the proposed fuel type additions for the Teton Facility HMA Plant Dryer Drum.

Toxic Air Pollutants PTE:

Toxic Air Pollutants (TAPs) were calculated in three distinct manners, with copies of the spreadsheets included in Appendix A, as well as a comparison of data values spreadsheet. The TAPs PTE spreadsheets are:

- ◆ Maximum PTE
- ◆ Actual Proposed PTE
- ◆ Permit Limits PTE
- ◆ PTE Data Values Difference of Actual Proposed Compared to Current Permit Limits

Again, the Maximum PTE calculations are for IDEQ to use to classify the Teton Facility HMA Plant. The Actual Proposed PTE calculations present results for emissions of TAPs according to the proposed changes of adding three fuel types for the Dryer Drum. The Permit Limits PTE calculations present results for emissions of TAPs according to current permit limits for the Dryer Drum. The difference of the calculated emissions of the Actual Proposed PTE and the Permit Limits PTE is shown on the PTE Data Values Difference. The PTE Data Values Difference indicates that there will be no TAPs increases in emissions that will exceed the screening emission level (EL) set by IDEQ in IDAPA 58.01.01 Sections 585 and 586. Due to this result then no further actions, including AQ Modeling, should be required.

5.0 AQ MODELING

As no “significant” emission levels for criteria pollutants were reached or exceeded, as well as no ELs of TAPs reached or exceeded, then there does not appear to be any reason or requirement to perform AQ Modeling for the proposed changes of adding the three types of fuel for the Dryer Drum at this facility. Should AQ Modeling be deemed to be necessary/required for any air quality pollutant of the Teton Facility HMA Plant Dryer Drum, due to the proposed fuel type changes/additions, then ECS would use the EPA approved SCREEN3 model with the specific stack data for the Teton Facility HMA Plant Dryer Drum, as shown above, and would typically use the rate of one (1) pound per hour (lb/hr) emission rate, which is 0.126 g/s (grams per second), to generate a dispersion coefficient for the Dryer Drum stack. ECS did perform this function (i.e., AQ Modeling) and this dispersion coefficient, which is shown to be 6.600 $\mu\text{g}/\text{m}^3$ (micrograms per cubic meter) per 1 lb/hr of any pollutant emitted from the Dryer Drum stack, can then be used as needed/required to calculate the highest estimated concentration of any pollutant for the Teton Facility HMA Plant Dryer Drum and the proposed changes of adding the three fuel types to the Dryer Drum.

Since there is a linear relationship between emission rate(s) and ambient air quality impact(s), then this relationship can be used to predict the actual ambient air quality impact by multiplying the dispersion coefficient of the Dryer Drum stack (i.e., $6.600 \mu\text{g}/\text{m}^3$) by the actual emission rates of any air quality pollutants emitted from the Teton Facility HMA Plant Dryer Drum.

6.0 DISCUSSION OF RESULTS

According to the PTE calculations and the AQ Modeling performed on the Teton Facility HMA Plant, as described within this Report, ECS has concluded that all Criteria Pollutants and the listed TAPs do not exceed any IDEQ ELs and/or trigger any additional modeling and/or assessments.

7.0 LIMITATIONS AND RESTRICTIONS

ECS has prepared this PTE and AQ Modeling Analysis Report specifically for this project, this site, and for HKC and the IDEQ. This document is solely for the use of ECS, HKC, and IDEQ any reliance on this document by a third party without the written consent of both ECS and HKC is prohibited. Should any information contained in this document, or any part of this document, be used by a third party, this shall be at the third party's sole risk.

ENVIRONMENTAL CONSULTING SERVICES, LLP



Kevin K. Walsh
Partner/Consultant

APPENDIX A

POTENTIAL TO EMIT CALCULATIONS

H-K CONTRACTORS, INC.

TETON FACILITY HOT MIX ASPHALT (HMA) PLANT

EMISSION CALCULATIONS - MAXIMUM - POTENTIAL TO EMIT (based on 8,760 hours per year)

UNCONTROLLED EMISSIONS

Based on maximum production rate of 250 tons per hour and four fuel types (Used Oil, #2 Fuel Oil, Propane, & Natural Gas)

Point Source	PM EF Value (lb/ton)	PM (TPY)	PM-10 EF Value (lb/ton)	PM-10 (TPY)	CO EF Value (lb/ton)	CO (TPY)	NOx EF Value (lb/ton)	NOx (TPY)	SO2 EF Value (lb/ton)	SO2 (TPY)	VOC EF Value (lb/ton)	VOC (TPY)	Lead EF Value (lb/ton)	Lead (TPY)
HMA Plant	28.0	30860.0	6.5	7117.5	0.13	142.4	0.655	60.2	0.058	63.5	0.037	35.0	0.00054	0.6

Area Sources	PM EF Value (lb/ton)	PM (TPY)	PM-10 EF Value (lb/ton)	PM-10 (TPY)	CO EF Value (lb/ton)	CO (TPY)	NOx EF Value (lb/ton)	NOx (TPY)	SO2 EF Value (lb/ton)	SO2 (TPY)	VOC EF Value (lb/ton)	VOC (TPY)	Lead EF Value (lb/ton)	Lead (TPY)
Silo Filling	0.0021	2.3	0.00105	1.1	0.0081	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loadout	0.0025	2.7	0.00125	1.4	0.0092	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: EF values are from AP-42 and are at "uncontrolled" emissions

Total Particulate Matter (PM) and Total PM-10 EFs from Table 11.1-3

CO, NOx, SO2 EFs from Table 11.1-7

VOC EF from Table 11.1-8

Area Sources EFs from Table 11.1-14 (PM-10 estimated at 50% of PM)

H-K CONTRACTORS, INC.

TETON FACILITY HOT MIX ASPHALT (HMA) PLANT

EMISSION CALCULATIONS - ACTUAL PROPOSED - POTENTIAL TO EMIT (based on 4,063 hours per year, which is the current permit limit)

CONTROLLED EMISSIONS (Wet Scrubber)

Based on maximum production rate of 250 tons per hour and four fuel types (Used Oil; #2 Fuel Oil; Propane; & Natural Gas)

Point Source	PM EF Value (lb/ton)	PM EF Value (TPY)	PM-10 EF Value (lb/ton)	PM-10 EF Value (TPY)	CO EF Value (lb/ton)	CO EF Value (TPY)	NOx EF Value (lb/ton)	NOx EF Value (TPY)	SO2 EF Value (lb/ton)	SO2 EF Value (TPY)	VOC EF Value (lb/ton)	VOC EF Value (TPY)	Lead EF Value (lb/ton)	Lead EF Value (TPY)
HMA Plant	0.045	22.9	0.0042	2.1	0.13	19.8	0.055	8.4	0.058	8.8	0.032	4.9	0.00054	0.08

Area Sources	PM EF Value (lb/ton)	PM EF Value (TPY)	PM-10 EF Value (lb/ton)	PM-10 EF Value (TPY)	CO EF Value (lb/ton)	CO EF Value (TPY)	NOx EF Value (lb/ton)	NOx EF Value (TPY)	SO2 EF Value (lb/ton)	SO2 EF Value (TPY)	VOC EF Value (lb/ton)	VOC EF Value (TPY)	Lead EF Value (lb/ton)	Lead EF Value (TPY)
Silo Filling	0.0029	0.7	0.0014	0.4	0.0081	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loadout	0.0094	2.1	0.004	1.0	0.0092	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: EF values are from AP-42 and are as "controlled" emissions

Total Particulate Matter (PM) and Total PM-10 EFs from Tables 11.1-3 and 11.1-4 (fabric filter control)

CO, NOx, SO2 EFs from Table 11.1-7 and using a 70% control efficiency (CE) for the Wet Scrubber

VOC EF from Table 11.1-8 and using a 70% CE for the Wet Scrubber

Area Sources EFs from Table 11.1-14 using a 50% CE for water sprays

H-K CONTRACTORS, INC.

TETON FACILITY HOT MIX ASPHALT (HMA) PLANT

EMISSION CALCULATIONS - PERMIT LIMITS - POTENTIAL TO EMIT (based on 4,063 hours per year, which is the current permit limit)

CONTROLLED EMISSIONS (Wet Scrubber)

Based on maximum production rate of 250 tons per hour and currently permitted fuel type of Propane only

Point Source	PM EF Value (lb/ton)	PM (TPY)	PM-10 EF Value (lb/ton)	PM-10 (TPY)	CO EF Value (lb/ton)	CO (TPY)	NOx EF Value (lb/ton)	NOx (TPY)	SO2 EF Value (lb/ton)	SO2 (TPY)	VOC EF Value (lb/ton)	VOC (TPY)	Lead EF Value (lb/ton)	Lead (TPY)
HMA Plant	0.045	22.9	0.0172	18.9	0.13	19.8	0.026	4.0	0.0014	0.5	0.032	4.9	0.00054	0.08

Area Sources	PM EF Value (lb/ton)	PM (TPY)	PM-10 EF Value (lb/ton)	PM-10 (TPY)	CO EF Value (lb/ton)	CO (TPY)	NOx EF Value (lb/ton)	NOx (TPY)	SO2 EF Value (lb/ton)	SO2 (TPY)	VOC EF Value (lb/ton)	VOC (TPY)	Lead EF Value (lb/ton)	Lead (TPY)
Side Filling	0.0019	0.7	0.0014	0.4	0.0051	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loadout	0.0084	2.1	0.004	1.0	0.0092	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: EF values are from AP-42 and are as "controlled" emissions; exception is PM-10 EF which is taken directly from current Permit Limit (9.3 lb/hr)

Total Particulate Matter (PM) from Table 11.1-3

CO, NOx, SO2 EFs from Table 11.1-7 and using a 70% control efficiency (CE) for the Wet Scrubber

VOC EF from Table 11.1-8 and using a 70% CE for the Wet Scrubber

Area Sources EFs from Table 11.1-14 using a 50% CE for water sprays

H-K CONTRACTORS, INC.
TETON FACILITY HOT MIX ASPHALT (HMA) PLANT
PTE DATA VALUES DIFFERENCE OF ACTUAL PROPOSED COMPARED TO CURRENT PERMIT LIMITS
For use in Emission Limit (EL) comparison for IDEQ and EPA Criteria Pollutants

Point Source	PM (TPY)	PM-10 (TPY)	CO (TPY)	NOx (TPY)	SO2 (TPY)	VOC (TPY)	Lead (TPY)
HMA Plant	0.0	~16.8	0.0	4.4	8.3	0.0	0.0

Area Sources	PM (TPY)	PM-10 (TPY)	CO (TPY)	NOx (TPY)	SO2 (TPY)	VOC (TPY)	Lead (TPY)
Silo Filling	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loadout	0.0	0.0	0.0	0.0	0.0	0.0	0.0

[illegible]

ND11-12 values are from A1-42 and are as a combination of "controlled" emissions as "fabric filter" and "uncontrolled". Due to four types of fuel the "worst case" 14% was selected and used.

H-K CONTRACTORS, INC.

TETON FACILITY HOT MIX ASPHALT (HMA) PLANT

EMISSION CALCULATIONS - ACTUAL PROPOSED - POTENTIAL TO EMIT (based on 4,083 hours per year)

Based on maximum production rate of 250 tons per hour and four fuel types (diesel Oil, #2 Fuel Oil, Propane, & Natural Gas)

AIR TOXICS AND HAZARDOUS AIR POLLUTANTS (HAPs)

Point Source = HMA Plant; Parallel Drum Mix Dryer

Pollutant	EF Value (lb/ton)	Calculated TPV	Pollutant	EF Value (lb/ton)	Calculated TPV
HCl	0.00021	0.1064535	Mercury	0.00000013	9.14175E-05
Acetone	0.0013	0.6607375	Antimony	0.00000056	0.00028441
Acetaldehyde	0.00026	0.01320475	Arsenic	0.0000058	0.0002945675
Acrolein	0.00039	0.19807125	Barium	0.00000641	0.000208229
Benzene	0.00034	0.17189	Cadmium	0.0000055	0.000293313
Ethylbenzene	0.00031	0.15744125	Chromium	0.00000026	1.32048E-05
Formaldehyde	0.00092	0.467215	Cobalt	0.00000011	0.000574413
Hexane	0.00004	0.020315	Copper	0.00000043	0.000223844
Isooctane (2,2,4-trimethylpentane)	0.00002	0.0101575	Hexavalent Chromium	0.00000062	0.000314883
Methyl Ethyl Ketone	0.00015	0.00602375	Lead	0.0000077	0.0003910535
Propionaldehyde	0.00016	0.008126	Manganese	0.0000024	0.00012189
Quinone	0.000045	0.023378	Mercury	0.0000063	0.031986125
Methyl chloroform	0.00039	1.9733375	Nickel	0.000025	0.0123705
Toluene	0.0005	0.101575	Phosphorus	0.0000048	0.00024375
Xylene	0.0005	0.101575	Silver	0.0000035	0.00017756
Total Non PM HAPs	0.0095	4.8245175	Selenium	4.1E-09	2.08279E-06
			Thallium	0.000041	0.002060375
			Zinc		
PM HAPs			Asbestos		
1-Methylpyrrolizidine	0.00017	0.008633875	2,3,7,8-TCDD	2.1E-13	1.06654E-10
Acenaphthene	0.000004	0.000211025	Total TCDD	9.3E-13	4.72324E-10
Acenaphthylene	0.00002	0.01117325	1,2,3,7,8-PeCDF	3.1E-13	1.57441E-10
Anthracene	0.000001	0.001574413	Total PeCDF	2.3E-11	1.17531E-08
Benzofluoranthene	0.0000021	0.000106644	1,2,3,4,7,8-HxCDD	4.3E-13	2.13048E-10
Benzofluorene	9.8E-09	4.97718E-06	1,2,3,6,7,8-HxCDD	1.30E-12	6.60238E-10
Benzofluoranthene	0.0000003	0.00001575	1,2,3,7,8,9-HxCDD	9.80E-13	4.97718E-10
Benzofluorene	0.0000011	5.48663E-05	Total HxCDD	1.20E-11	6.0949E-09
Benzofluorene	0.0000004	0.000020315	1,2,3,4,6,7,8-HpCDD	3.40E-11	1.72679E-08
Benzofluoranthene	0.00000041	2.08229E-05	Total HpCDD	7.10E-11	3.60391E-08
Chrysene	0.0000015	0.000075125	Okra CDD	2.70E-09	1.37126E-06
Fluoranthene	0.0000061	0.00030804	Total PCDD	2.80E-09	1.42765E-06
Fluorene	0.00001	0.000506675			
Indene (1,2,3-cd)pyrene	0.00000007	3.55313E-06			
Naphthalene	0.00005	0.002531875			
Perylene	8.8E-09	4.4693E-06			
Phenanthrene	0.000021	0.01061125			
Pyrene	0.000003	0.0001523625			
Total PM HAPs	0.00088	0.44093			
Total HAPs	0.01	5.07875			

NOTE: EF values are from AP-42 and are as a combination of "controlled" emissions as "fabric filter" and "uncontrolled" Due to four types of fuel the "worst-case" EF is selected and used

Tables 11.1-3, 11.1-10, 11.1-12

H-K CONTRACTORS, INC.

TETON FACILITY HOT MIX ASPHALT (HMA) PLANT

EMISSION CALCULATIONS - PERMIT LIMITS - POTENTIAL TO EMIT (based on 4,063 hours per year, which is the current permit limit)

Based on maximum production rate of 250 tons per hour and currently permitted fuel type of Propane only

AIR TOXICS AND HAZARDOUS AIR POLLUTANTS (HAPs)

Point Source - HMA Plant; Parallel Drum Mix Dryer

Pollutant	EF Value (lb/ton)	Calculated TPY	Pollutant	EF Value (lb/ton)	Calculated TPY
HCl	ND	#VALUE!	Mercury	0.0000013	9.14175E-05
Non-PAH HAPs			Antimony	0.00000056	0.00028441
Acetaldehyde	ND	#VALUE!	Barium	0.0000058	0.002945675
Acrolein	ND	#VALUE!	Cadmium	0.00000041	0.000508729
Benzene	0.00039	0.19107125	Chromium	0.0000015	0.000791113
1,1-Dichloroethene	0.00024	0.12119	Cobalt	0.00000076	1.37040E-05
Formaldehyde	0.0031	1.5744125	Copper	0.0000011	0.001574413
Hexane	0.00092	0.467245	Hexavalent Chromium	0.00000045	0.000225544
Isocetane (2,2,4-trimethylpentane)	0.00004	0.020315	Lead	0.00000062	0.000314883
Methyl Ethyl Ketone	ND	#VALUE!	Manganese	0.0000077	0.003916638
Propionaldehyde	ND	#VALUE!	Mercury	0.00000024	0.00012189
Quinone	ND	#VALUE!	Nickel	0.000001	0.001995125
Methyl chloroform	0.00018	0.024378	Phosphorus	0.000028	0.0142505
Toluene	0.00015	0.0761813	Silver	0.00000048	0.00024375
Xylene	0.0003	0.151575	Selenium	0.00000033	0.000177256
Total Non-PAH HAPs	0.00051	2.5901625	Thallium	4.1E-06	2.05229E-06
			Zinc	0.000001	0.000980375
PAH HAPs			Dioxins		
2-Methylnaphthalene	0.000074	0.03788275	2,3,7,8-TCDD	ND	#VALUE!
Acenaphthene	0.0000014	0.000711025	Total TCDD	ND	#VALUE!
Acenaphthylene	0.0000006	0.000307734	1,2,3,7,8-PeCDD	ND	#VALUE!
Anthracene	0.00000022	0.000111722	Total PeCDD	ND	#VALUE!
Benzofluoranthene	0.00000021	0.000106654	1,2,3,4,7,8-HxCDD	ND	#VALUE!
Benzofluorene	9.9E-09	4.97718E-06	1,2,3,6,7,8-HxCDD	ND	#VALUE!
Benzobiphenylene	0.0000001	5.07875E-05	1,2,3,7,8,9-HxCDD	ND	#VALUE!
Benzocyclopentadiene	0.00000011	5.58663E-05	Total HxCDD	ND	#VALUE!
Benzoketone	0.00000001	0.000000115	1,2,3,4,6,7,8-HpCDD	ND	#VALUE!
Benzofluoranthene	0.00000001	2.05229E-05	Total HpCDD	ND	#VALUE!
Chrysene	0.00000018	9.14175E-05	OctaCDD	ND	#VALUE!
Fluoranthene	0.00000003	0.000000034	Total PCDD	ND	#VALUE!
Fluorene	0.00000035	0.001922925			
Indeno(1,2,3-cd)pyrene	0.000000007	3.55511E-06			
Naphthalene	0.000009	0.04570875			
Perylene	8.8E-09	4.4693E-06			
Phenanthrene	0.0000076	0.003845985			
Pyrene	0.0000004	0.002128225			
Total PAH HAPs	0.00019	0.09646675			
Total HAPs	0.00053	2.6917375			

NOTE: EF values are from AP-42 and are a combination of "controlled" emissions as "fabric filter" and "uncontrolled"

Tables 11.1-6; 11.1-10; & 11.1-12

NOTE: ND = No Data and #VALUE! = no calculation

[illegible]

NOTE: H902 EL values taken from H902A 30.01.01 Tables in Sections 285 and 286 and represent the "Screening Limitation Level".
NOTE: #N/A's include no calculation and therefore no difference.

APPENDIX B

AQ MODELING (SCREEN3) PARAMETERS AND RESULTS

Date: 3/22/2007

SCREEN3 Modeling Raw Data Inputs

Client: H-K Contractors, Inc.
Source: Teton Facility HMA Plant (1959 Barber Green; Drum Mix; Parallel Flow)
Type: Dryer Drum
Compound (Air Pollutant): All, set at 1.0 pound per hour (lb/hr)

1. Measured **or** estimated emission rate in either pounds per hour (lbs/hr) or grams per second (g/s):
1.0 lb/hr or 0.126 g/s
2. Measurements of the exit stack height for the Source, above the ground level in either feet (ft) or meters (m):
25 ft or 7.62 m
3. Measurements of the inside diameter of the stack for the Source in either ft or m:
3.33 ft or 1.02 m
4. Measured **or** estimated rate of stack exit velocity in either feet per second (ft/s) or meters per second (m/s) of the stack for the Source:
84.2 ft/s or 25.7 m/s
5. Measured **or** estimated stack gas temperature in either °F or °C of the stack for the Source:
127 °F or 52.78°F or 325.93°K
6. Notification of any terrain in the area that is above the exit of the stack for the Source:
None
7. Notification of the facilities setting as either Urban or Rural of the stack for the Source:
Rural
8. Measurements of the buildings height in either ft or m, **if** there are any buildings associated with the stack for the Source:
N/A
9. Measurements of the buildings minimum and maximum dimensions in either ft or m:
N/A
10. Location of the facility, and/or nearest city:
110 North 2300 East, Teton, ID
11. Measurements of distance from the stack for the Source to the property boundary in ft or m:
Unknown

03/30/07
13:52:54

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

H-K Contractors Teton Facility HMA Plant Dryer Drum Dispersion Factor

SIMPLE TERRAIN INPUTS:

```

SOURCE TYPE           =          POINT
EMISSION RATE (G/S)   =          .126000
STACK HEIGHT (M)      =          7.6200
STK INSIDE DIAM (M)   =          1.0200
STK EXIT VELOCITY (M/S) =        25.7000
STK GAS EXIT TEMP (K) =        325.9300
AMBIENT AIR TEMP (K)  =        293.0000
RECEPTOR HEIGHT (M) =          1.0000
URBAN/RURAL OPTION    =          RURAL
BUILDING HEIGHT (M)   =          .0000
MIN HORIZ BLDG DIM (M) =          .0000
MAX HORIZ BLDG DIM (M) =          .0000

```

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 6.623 M**4/S**3; MOM. FLUX = 154.436 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
50.	.2125	3	10.0	10.0	3200.0	16.47	6.91	4.50	NO
100.	4.410	3	10.0	10.0	3200.0	16.47	12.65	7.75	NO
200.	6.305	3	8.0	8.0	2560.0	18.68	23.83	14.38	NO
300.	5.886	4	10.0	10.0	3200.0	16.47	22.75	12.35	NO
400.	5.302	4	8.0	8.0	2560.0	18.68	29.62	15.59	NO
500.	4.765	4	5.0	5.0	1600.0	25.31	36.50	18.98	NO
600.	4.362	4	5.0	5.0	1600.0	25.31	43.02	21.81	NO
700.	3.978	4	4.0	4.0	1280.0	29.73	49.59	24.85	NO
800.	3.651	4	3.5	3.5	1120.0	32.89	56.04	27.74	NO
900.	3.369	4	3.5	3.5	1120.0	32.89	62.30	30.34	NO
1000.	3.141	4	3.0	3.0	960.0	37.10	68.65	33.18	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 50. M:
157. 6.600 3 10.0 10.0 3200.0 16.47 19.17 11.58 NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
-----	-----	-----	-----
SIMPLE TERRAIN	6.600	157.	0.

** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
